

WHAT IS CLAIMED IS:

1. A substrate for substrate comprising:

a top surface and a back surface, the surfaces being

5 square in shape;

an end surface formed along the thickness thereof;

and

a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet

10 and another region where the end surface and the back surface meet,

wherein a size of the perimeter edge of the substrate is 300 mm or more on a side and the end surface and the chamfered surface each has a roughened surface

15 having a surface roughness (Ra) ranging from 0.03 μm to 0.3 μm .

2. A substrate for photomask as set forth in Claim 1, wherein the end surface and the chamfered surface each

20 has a roughened surface having a surface roughness (Ra) ranging from 0.05 μm to 0.3 μm .

3. A substrate for photomask comprising:

a top surface and a back surface, the surfaces being

25 square in shape;

an end surface formed along the thickness thereof;
and

a chamfered surface formed on a perimeter edge
region where the end surface and the top surface meet
5 and another region where the end surface and the back
surface meet,

wherein a size of the perimeter edge of the
substrate is 300 mm or more on a side and the chamfered
surface each is a roughened surface polished with an
10 abrasive tool having a particle size ranging from #700
to #2,400.

4. A substrate for photomask comprising:

a top surface and a back surface, the surfaces being
15 square in shape;

an end surface formed along the thickness thereof;
and

a chamfered surface formed on a perimeter edge
region where the end surface and the top surface meet
20 and another region where the end surface and the back
surface meet,

wherein a size of the perimeter edge of the
substrate is 300 mm or more on a side and the chamfered
surface is a smaller surface roughness than the end
25 surface.

5. A substrate for photomask as set forth in Claim 4, wherein the end surface has a surface roughness (Ra) of 0.05 μm or more.

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6. A photomask blank comprising:
a substrate; and
an opaque layer provided on a top surface of the substrate,

10 wherein the substrate including:

the top surface and a back surface, the surfaces being square in shape;

an end surface formed along the thickness thereof; and

15 a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another region where the end surface and the back surface meet,

20 wherein a size of the perimeter edge of the substrate is 300 mm or more on a side and the end surface and the chamfered surface each has a roughened surface having a surface roughness (Ra) ranging from 0.03 μm to 0.3 μm .

25 7. A photomask comprising:

a substrate ; and

an opaque layer pattern provided on a top surface
of the substrate,

wherein the substrate including:

5 the top surface and a back surface, the
surfaces being square in shape;

 an end surface formed along the thickness
thereof; and

 a chamfered surface formed on a perimeter edge
10 region where the end surface and the top surface
meet and another region where the end surface and
the back surface meet,

 wherein a size of the perimeter edge of the
substrate is 300 mm or more on a side and the end
15 surface and the chamfered surface each has a
roughened surface having a surface roughness (Ra)
ranging from 0.03 μm to 0.3 μm .

8. A substrate for photomask as set forth in Claim 1,
20 wherein the roughened surface having a surface roughness
(Ra) ranging from 0.15 μm to 0.20 μm .

9. A substrate for photomask as set forth in Claim 3,
 wherein the abrasive tool for polishing the chamfered
25 surface has a particle size ranging from #800 to #1,000.

10. A substrate for photomask as set forth in Claim 3,
wherein the chamfered surface is polished with the
abrasive tool and an abrasive compound.

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11. A photomask blank comprising:
a substrate; and
an opaque layer provided on a top surface of the
substrate,

10 wherein the substrate including:
the top surface and a back surface, the
surfaces being square in shape;
an end surface formed along the thickness
thereof; and

15 a chamfered surface formed on a perimeter edge
region where the end surface and the top surface
meet and another region where the end surface and
the back surface meet,

20 wherein a size of the perimeter edge of the
substrate is 300 mm or more on a side and the
chamfered surface each is a roughened surface
polished with an abrasive tool having a particle
size ranging from #700 to #2,400.

25 12. A photomask blank comprising:

a substrate; and

an opaque layer provided on a top surface of the substrate,

wherein the substrate including:

5 the top surface and a back surface, the surfaces being square in shape;

an end surface formed along the thickness thereof; and

10 a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another region where the end surface and the back surface meet,

15 wherein a size of the perimeter edge of the substrate is 300 mm or more on a side and the chamfered surface is a smaller surface roughness than the end surface.

13. A photomask comprising:

a substrate; and

20 an opaque layer provided on a top surface of the substrate,

wherein the substrate including:

the top surface and a back surface, the surfaces being square in shape;

25 an end surface formed along the thickness

thereof; and

a chamfered surface formed on a perimeter edge
region where the end surface and the top surface
meet and another region where the end surface and
the back surface meet,

wherein a size of the perimeter edge of the
substrate is 300 mm or more on a side and the
chamfered surface each is a roughened surface
polished with an abrasive tool having a particle
size ranging from #700 to #2,400.

14. A photomask comprising:

a substrate; and

an opaque layer provided on a top surface of the
substrate,

wherein the substrate including:

the top surface and a back surface, the
surfaces being square in shape;

an end surface formed along the thickness
thereof; and

a chamfered surface formed on a perimeter edge
region where the end surface and the top surface
meet and another region where the end surface and
the back surface meet,

wherein a size of the perimeter edge of the

substrate is 300 mm or more on a side and the chamfered surface is a smaller surface roughness than the end surface.